

## **Harting Declaration**

**Redacted Version of  
Document Sought to  
be Sealed**

1 UNITED STATES DISTRICT COURT

2 NORTHERN DISTRICT OF CALIFORNIA, OAKLAND DIVISION

3 CHASOM BROWN, WILLIAM BYATT,  
4 JEREMY DAVIS, CHRISTOPHER  
5 CASTILLO, and MONIQUE TRUJILLO,  
6 individually and on behalf of themselves and  
7 all others similarly situated,

8 Plaintiffs,

9 vs.

10 GOOGLE LLC,

11 Defendant.

Case No. 4:20-cv-03664-YGR-SVK

12 **DECLARATION OF RICHARD HARTING**

13 1. I am a Software Engineer employed by Google LLC. I have been employed at Google  
14 as an engineer since January 2013. Since around mid-2017, I manage the Google Ad Manager  
15 reporting infrastructure team at Google. My team processes Sawmill Ads logs at Google. These logs  
16 store historical event-level data about ads served through the Google Ad Manager product and users'  
17 interactions with them. As a result of my work, I have knowledge of the Sawmill Ads logs, including  
18 how they are structured, maintained, and stored. I have also been called upon to assist Google  
19 litigation counsel in processes related to preservation and searching of various additional logs. I  
20 make this declaration based on personal knowledge and information provided to me by Google  
21 colleagues, and if called to testify, I could and would competently testify to such facts.

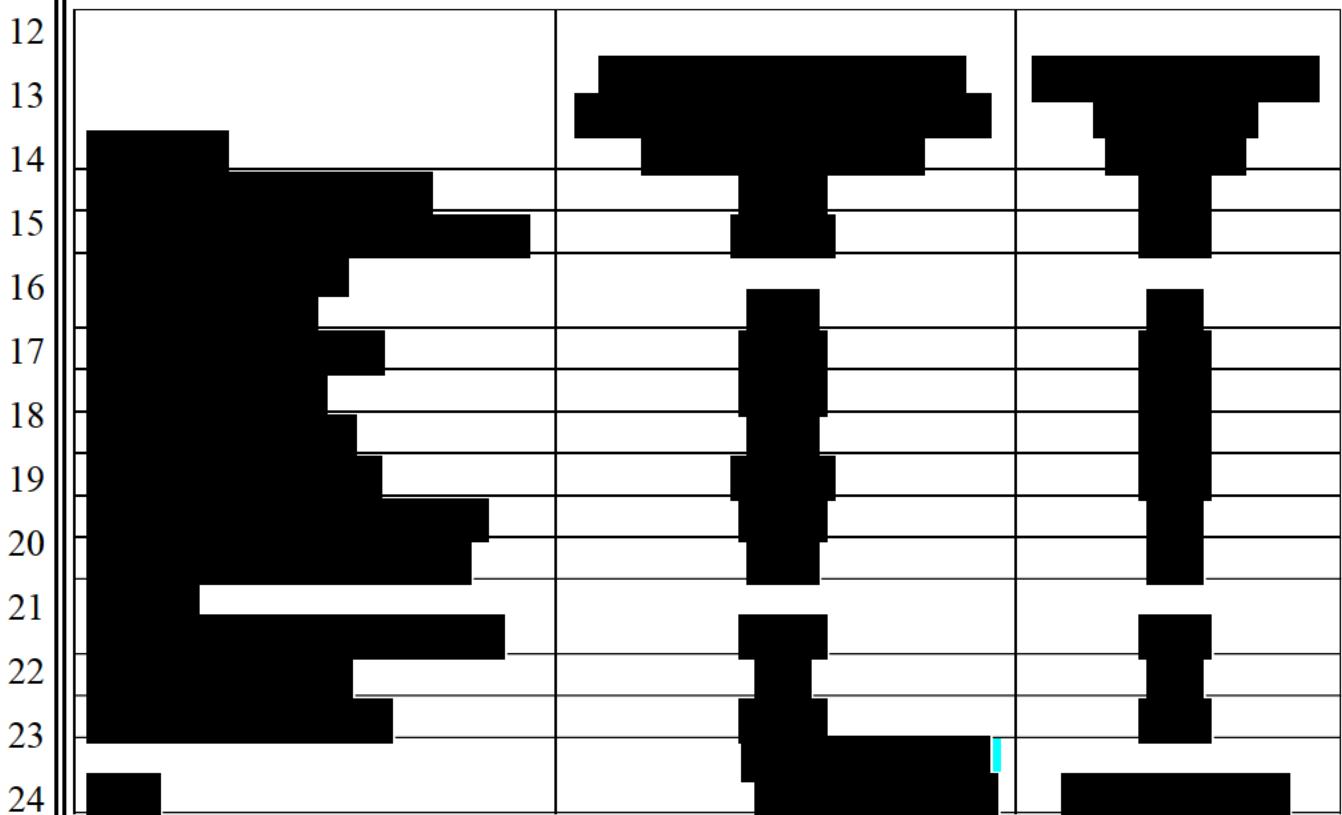
22 2. I understand Plaintiffs are requesting Google preserve all data in, and suspend the  
23 normal business retention of, various logs and keyspaces, including: [REDACTED]

24 3. The data sources implicated by Plaintiffs' preservation demand record many billions  
25 of entries a day. These data sources are burdensome to preserve, search, and maintain. Based on my  
26 understanding of these data sources and Google's data logging system, I believe it is not feasible to  
27 store all data in these data sources indefinitely. Even if we were able to find some engineering

1 solution to storing these data sources, the task of storing and safely hosting the ever-increasing  
2 amount of data would take substantial engineering effort and cost.

3       4. Taking as an example the [REDACTED] that are not currently retained  
4 permanently, in the ordinary course of business, [REDACTED]  
5 [REDACTED] would  
6 require writing new scripts. Writing, testing, and validating these scripts would require about [REDACTED]  
7 of engineering time. Maintaining and monitoring the pipelines would take additional time.

8       5. Google estimates that the total size of these [REDACTED] as of April 24,  
9 2022, based on the current retention periods, is about [REDACTED]; together they collect more than  
10 [REDACTED] per day. Below is the estimated data size information for each log retrieved from  
11 Google's Logs Front Door tool.



25       6. For the past month, the logs listed below captured at least [REDACTED] entries with  
26 the [REDACTED] field  
27 set to "true" each day.

28       • [REDACTED]

A horizontal bar chart showing the length of 10 different DNA fragments. The y-axis is labeled with numbers 1 through 7. Each fragment is represented by a black horizontal bar. Fragment 1 is the shortest, and Fragment 7 is the longest.

Fragment	Length (approx.)
1	10
2	25
3	35
4	30
5	40
6	45
7	55
8	60
9	65
10	70

8        7. I also understand the Special Master has recommended that Google preserve all  
9 records for 10,000 randomly selected U.S. based UIDs from the selected data sources for each day  
10 for which there is data. This sampling approach will require at least [REDACTED] engineering hours to  
11 ideate, accomplish and maintain for the [REDACTED] alone. Other impacted teams, including  
12 UMA, Analytics, [REDACTED] and [REDACTED] will also have to implement and maintain preservation pipelines.

8. In addition, I understand that Plaintiffs demand Google to preserve encryption keys

14  
15

16 I declare under penalty of perjury that the foregoing is true and correct.

17 Executed on the 25<sup>th</sup> day of April 2022 at New York.

18

19

20

21

22

23

24

25

26

27

28

By:

~~111~~

---

Richard Harting